


Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (Currently amended) In a computer network, a method of implementing a virtual layer around a software application instance in communication with an operating system, the method comprising ~~the steps of:~~

(a) registering an application by associating a unique application identifier ~~to~~ with the application, ~~said association~~ and passing said ~~association~~ application identifier to a software module that processes transitions between the application and the operating system;


 (b) allocating a resource in response to a resource request by the application;
allocating a resource identifier associated with said resource ~~when an application requests access to a system resource, said resource identifier returned from the operating system~~ in response to said request;

allocating a virtual resource identifier associated with said resource in response to said request;

(c) translating a said resource identifier ~~from a system resource identifier to a said virtual resource identifier~~ when the resource identifier is passed from the operating system to the application; and

translating said virtual resource identifier to said resource identifier when the virtual resource driver is passed from the application to the operating system.

Claim 2 (cancelled)

 Claim 3 (new) The method of claim 1 further comprising creating an entry in a virtual resource translation table in response to said resource request, wherein said entry

describes the association between said application identifier, said resource identifier, and said virtual resource identifier.

Claim 4 (new) The method of claim 1 further comprising associating a plurality of resource identifiers and a plurality of resources with said virtual resource identifier.

Claim 5 (new) The method of claim 4 wherein said plurality of resources are a plurality of ports.

Claim 6 (new) The method of claim 1 further comprising associating said virtual resource identifier with a new resource identifier and a new resource in response to said application being restored from one or more snapshots.

Claim 7 (new) A system comprising hardware adapted to execute program instructions from a computer readable medium, the program instructions including an operating system and a software module, wherein:

the operating system is operable to:

allocate a resource in response to a resource request by an application; and
allocate a resource identifier associated with said resource in response to said request;

the software module is operable to:

register the application by associating a unique application identifier with the application;
pass said application identifier to a software module that processes transitions between the application and the operating system; and
allocate a virtual resource identifier associated with said resource in response to said request; and the system further comprising:


a translation table operable to:

translate said resource identifier to said virtual resource identifier when the resource identifier is passed from the operating system to the application; and

translate said virtual resource identifier to said resource identifier when the virtual resource driver is passed from the application to the operating system.

Claim 8 (new) The system of claim 7 wherein said translation table comprises an entry describing the association between said application identifier, said resource identifier, and said virtual resource identifier.

Claim 9 (new) The system of claim 7 wherein said software module is operable to associate a plurality of resource identifiers and a plurality of resources with said virtual resource identifier.

 Claim 10 (new) The system of claim 9 wherein said plurality of resources are a plurality of ports.

Claim 11 (new) The system of claim 7 wherein said software module is operable to associate said virtual resource identifier with a new resource identifier and a new resource in response to said application being restored from one or more snapshots.

Claim 12 (new) A computer readable medium including program instructions executable to implement a method comprising:

registering an application by associating a unique application identifier with the application, and passing said application identifier to a software module that processes transitions between the application and the operating system;

allocating a resource in response to a resource request by the application;

allocating a resource identifier associated with said resource in response to said request;

allocating a virtual resource identifier associated with said resource in response to said request;

translating said resource identifier to said virtual resource identifier when the resource identifier is passed from the operating system to the application;
and
translating said virtual resource identifier to said resource identifier when the virtual resource driver is passed from the application to the operating system.

Claim 13 (new) The computer readable medium of claim 12 wherein the method further comprises creating an entry in a virtual resource translation table in response to said resource request, wherein said entry describes the association between said application identifier, said resource identifier, and said virtual resource identifier.

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Claim 14 (new) The computer readable medium of claim 12 wherein the method further comprises associating a plurality of resource identifiers and a plurality of resources with said virtual resource identifier.

Claim 15 (new) The computer readable medium of claim 14 wherein said plurality of resources are a plurality of ports.

Claim 16 (new) The computer readable medium of claim 12 wherein the method further comprises associating said virtual resource identifier with a new resource identifier and a new resource in response to said application being restored from one or more snapshots.
